1-1.6K F2 Work Package Plan

1- 1.6K Project HSEQ Management

[redacted]

Etruria Vale STW Vale 1

Rock Fissure Grouting

[redacted]

[redacted]

Work Package Plan

For

Rock Fissure Grouting

STW Etruria Vale 1 Detention Tank
200-2400257

Stoke on Trent

Programme Start April 2025

					Acceptance by Customer		
Version	Prepared by	Date	Approved by	Date	Required Y/N	Acceptance by	Date
0	[redacted]						
1					Y	[redacted]	
2					Y		
3					Y		
4					Y		

Contents

1 Work Package Details 3
1.1 Description of work 3

2 Control of Activity Risks 19
2.1 Planning for Any Open Line (ALO) working on Network Rails Infrastructure 20

3 Resources 21

4 Permits 23

5 Site Details 24
5.1 Access 26
5.2 Site Layout 27
5.3 Control of Site Hazards [redacted]
5.4 Communication & Contact Details 28
5.5 Emergency Arrangements 29
5.6 Interfaces 30
5.7 Welfare 30
5.8 PPE 31

6 Environmental 32
6.1 Project Impact Assessment 32
6.2 Pollution Prevention 33
6.3 Waste Management 33
6.4 Unexpected Contaminated Land 34

7 Briefing 34
7.1 Briefing Arrangements 34

1 Work Package Details

1.1 Description of work

[redacted] have been contracted by [redacted] to undertake rock fissure grouting works at Etruria STW Detention Tank, Stoke on Trent ST1 4JX. The main contractor is [redacted] with [redacted] being the ground treatment subcontractor.

The purpose of the ground treatment work is to use fissure grouting techniques to grout fissures within the underlaying strata, to reduce permeability and balance hydrostatic forces, to allow the construction of the proposed shaft. Please note while coal has been identified as present, it is understood it is unworked in the area of the shaft and the grouting is to target rock fissures ONLY and not voids and not voids associated with abandoned mine workings. [redacted]

It s understood from the borehole data provided that within the footprint of the Vale 1 shaft we could potentially meet coal seams (intact/unworked). Extracts taken from a borehole sample predicts that coal workings could potentially be encountered at a depth of 16.3m to 16.82m BGL (below ground level) with an expected seam of 0.52m thick with a further seam at a depth of 30.47 to 30.65 BGL (0.18m) thickness.

The above coal workings must be taken into consideration with every precaution considered to protect against spontaneous combustion of the coal. There aren't any reports that state any findings of any mine gases within the working area however any intrusive working will have the potential to displace mine gases which may cause an accumulation within a confined area

<u>Spontaneous Combustion</u>

Spontaneous combustion of coal is the process where coal catches fire without an external heat source. Spontaneous combustion usually occurs in coal because of air flowing over it. Coal will oxidise in the presence of air releasing carbon dioxide and importantly, heat. Where the flow of air is insufficient to carry away the generated heat the coal will warm and increase the rate of oxidation. In this way the coals temperature can increase until it auto ignites. However, where the air flow is very low there will be insufficient oxygen for oxidation and the process will be stopped. The process of spontaneous combustion therefore requires sufficient air to allow oxidation/combustion, but not so much as to cool the coal

1- Ground monitoring to be undertaken by [redacted] throughout the works to identify any potential ground gases

2- Multi Rae gas monitors will be utilised for the duration of the works these will detect the 5no gases of concern within the underlaying ground strata. Note see the below trigger & action levels
   - Carbon Monoxide
   - Hydrogen Sulphide
   - Methane
   - Oxygen
   - Carbon Dioxide

MultiRae Lite Gas monitor calibration certs – calibrated [redacted]

Gas	Span	Units	Bump Test	Units
CO2	5000.0	ppm	5000.0	ppm
O2	18.0	%vol	18.0	%vol
CO	50.0	ppm	50.0	ppm
H2S	10.0	ppm	10.0	ppm
CH4	2.2	%vol	2.2	%vol

HSE EH40:2005 alarm levels for STEL and TWAs Guide lines exposure limits

Gas	TWA	STEL	Instant Low Alarm	Instant High Alarm
CO2	5000ppm	15000ppm	15000ppm	20000ppm
CO	20ppm	100ppm	100ppm	200ppm
H2S	5ppm	10ppm	10ppm	20ppm
O2			19.5%vol	23.5%vol
LEL CH4			10%LEL	20%LEL

The gas monitor is to be used in accordance with MRA`s guidance, these are to be fixed as close to the borehole as possible typically attached to the front safety cage of the drilling rig so any gasses can be detected. Note. If exposure levels activate the Gas Monitor, then works must "Stop" with the [redacted] Emergency procedure followed

3- Rotary drilling methods under water flush are to be utilised throughout the works, these methods are known to reduce the effects of potential spontaneous combustion. The water flush will act as a lubricant reducing the chance of any materials igniting

4- Muck away created from the works will be removed away from the working area and stored in a designated stockpile this will be monitored by [redacted] making sure no ground gasses are present and for any contaminants

5- Daily briefings will be undertaken between [redacted] and [redacted] making sure all operations are discussed making sure all operatives are aware of the tasks to be undertaken

Scope of works

The underlaying purpose of the fissure grouting is to reduce the permeability of the ground and minimise the water inflow to managable levels to allow the safe progression of the shaft installation.

The scope of works includes the mobilisation of equipment and fissure grouting application to reduce the permeability of the the underlaying strata

The procedure involves drilling and grouting:

- **5m Deep seated grout plug: 59no 101mm diamter to a depth of 50.5m BGL (PPL To be 122.1) – 2no stages @2.5m per stage. Grouting from 50.5m BGL upto 45.5m BGL** [redacted]
- **Grout Curtain: 58no 101mm diamter to a depth of 49.6m BGL (PPL to be 122.1) grouted in 5.1m stages Grouting from 49.6m BGL up to 24.1m BGL**

[redacted] are responsible fpr the design and installation of the fissure grouting in accordance with the information provided by [redacted] The requiremnet of the ground treatmnet is to reduce the permeability and balance hydrostatic forces.

The basic sequence of works are as follows:

1- Mobilise plant & equipment to site (site set up)
2- Install temporary casing to the top of each treatment area
3- Inject grout in accordance with the termination criteria
4- Conduct in-situ post treatment water testing
5- Demobilise from site

The scope of works assumes no dissolution features or abandoned workings or voids in the ground. The pupose of the treatment is to target the fissures ONLY in the underlaying strata. If the maximum grout takes are reached (indicative of encoutering voids), [redacted] will swap to a cement bentonite mix to fill the void on instruction from [redacted]

The drilling will be undertaken from the platform level prepared in advance of the works by [redacted]. The working paltform will be designed and maintained in accordance to FPS specificiation throughout the works.

An observational approach has been developed such that the procedures and methods to be adopted ensure the safety of all site operatives. Should any changes on the design, paramaters, procedures or methodology be implemented a task specific briefing will be undertaken

Pre-commencement requirements

1- Inductions, all opertives to undertake a [redacted] site specific induction prior to works commenicng

2- Working platform certificate to be completed and signed off by [redacted] to issue the rig data sheets complete with bearing pressures to [redacted] the platform is to be deigned and built in accordance ot FPS specificiation

3- Permit to break ground will be required prior to any drilling being undertaken. [redacted] are to confirm that no services clash with the drilling positions and issue a permit on this basis. Any exisiting services should be included in the permit and be made aware of

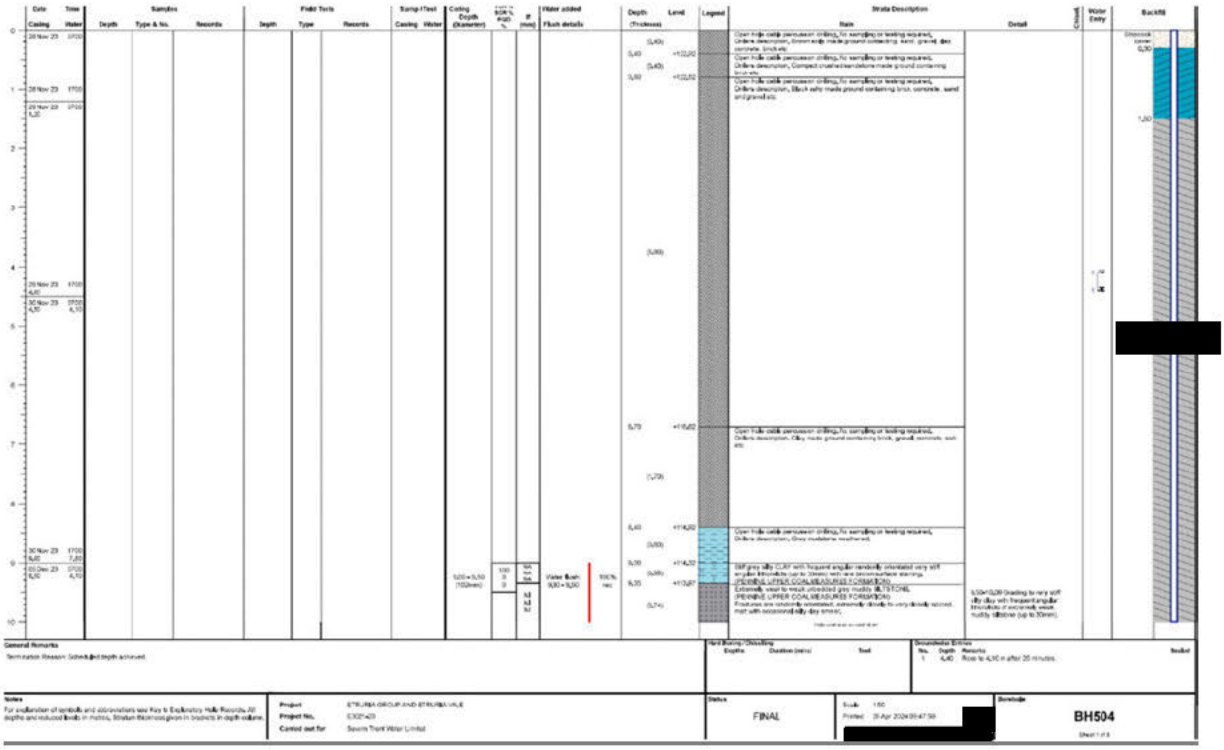
4- Water supply, A 2" water feed capable of supplying a cumulative 400l/min at mains pressur[redacted] required for the duartion of the drilling and grouting

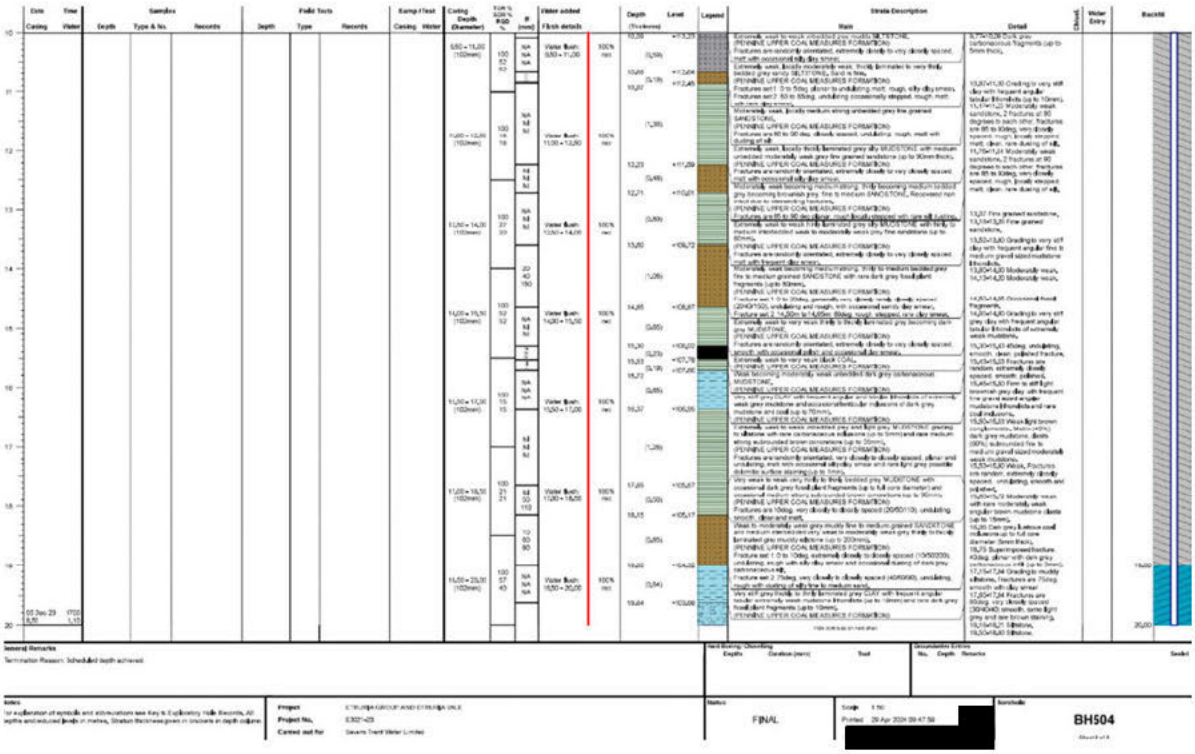
Planned Sequence of Works

1- These works will be carried out in a single visit. An additional detailed programme will be submitted under a separate cover
2- Install 5m grout plug
3- Install grout curtain

Any change in the planned methodology of the works during this contract will be notified to, discussed and agreed with [redacted] before any new method is pit into place on site

Ground Conditions & Borehole Log Information



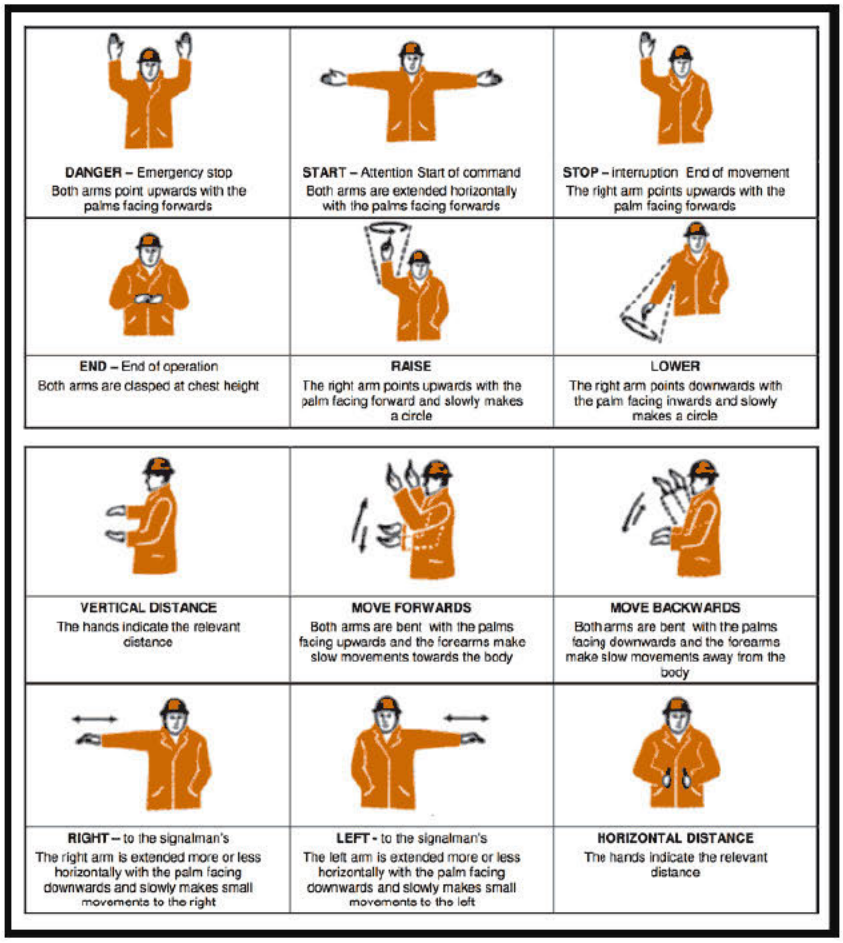


Setting out

Setting out of all boreholes will be undertaken by the attending engineer provided by [redacted]

The proposed execution methodology for the Fissure Grouting works for Etruria

1. The drill rig is to be set up over the drilling position which will be controlled by the rig attendant. **Note:** Operational signals must be agreed between the operator & rig attendant prior to the machine commencing any works


DANGER – Emergency stop
Both arms point upwards with the palms facing forwards
START – Attention Start of command
Both arms are extended horizontally with the palms facing forwards
STOP – Interruption End of movement
The right arm points upwards with the palm facing forwards
END – End of operation
Both arms are clasped at chest height
RAISE
The right arm points upwards with the palm facing forward and slowly makes a circle
LOWER
The right arm points downwards with the palm facing inwards and slowly makes a circle
VERTICAL DISTANCE
The hands indicate the relevant distance
MOVE FORWARDS
Both arms are bent with the palms facing upwards and the forearms make slow movements towards the body
MOVE BACKWARDS
Both arms are bent with the palms facing downwards and the forearms make slow movements away from the body
RIGHT – to the signalman's
The right arm is extended more or less horizontally with the palm facing downwards and slowly makes small movements to the right
LEFT - to the signalman's
The left arm is extended more or less horizontally with the palm facing downwards and slowly makes small movements to the left
HORIZONTAL DISTANCE
The hands indicate the relevant distance

[redacted]

2. Check the drill mast verticality during drilling making sure the mast is in the vertical position. **Note.** A gas monitor is to be situated at the borehole location prior to drilling commencing, this device should be checked and used in line with the manufacturer's guidelines. If the alarm sounds then works must "STOP" with personnel vacating the area until it has been deemed safe to return

3. Water will be recirculated during the works – A sufficient water supplies able to keep up with daily drilling & grouting is to be supplied by [redacted] approximately 8-10m² per shift of waste drilling fluids may be created). **Note.** The water recirculation tanks are to be emptied of drilling materials on request by [redacted]

Barhale

Note: Contaminated water will be pumped and processed through an on-site treatment system by [redacted] prior to discharge to foul sewer under agreement with the local sewage undertaker this is to be approved by [redacted]

4. Drill the steel casings to the design depth. Temporary casings will be used to support the borehole above within the unstable ground. The casing diameter will be 101mm, with the casing shoe diameter being 108mm. The temporary casings will be advanced in 1m sections utilising the lost point system, we may also require a T38 (or similar) drill rod with a 78mm drill bit until design depth is achieved

5. The drill rods will then be removed from the borehole leaving the temporary casing in the borehole

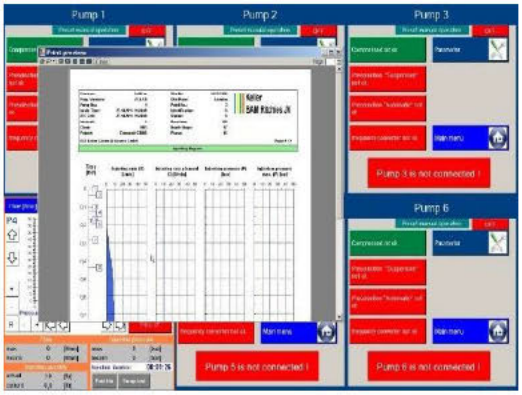
Target Stage Grouting

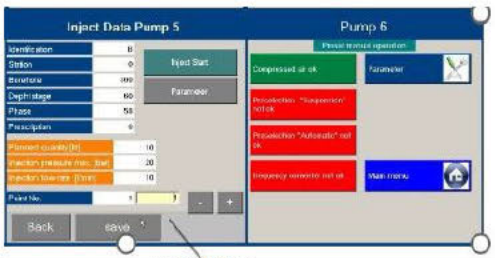
An inflatable packer will be lowered into the casing then inflated allowing the treatment stage to be targeted grout will be injected in accordance with the grouting parameters. **Note:** All grouting operations will be controlled via the M5 data system within the grout module **Note**: Compressed air can be utilised for inflating the packer, the compressed air bottles are to be stored in a secured cage, regulators will be fitted so the correct air pressure is used for inflating the packers

[redacted]

Col 135 Grout Pump

M5 Injection Sheets





Page Break

the correct injection port ll

ıled grouting for the shift set-pc

ct point is selected, press

Injection point num ber
From daily or m aster
spread sheet.

Grouting Parameters

Injection Pressure (excl. line losses)	0.25/0.5 bar/meter depth
Minimum Flowrate	5 Liters a minute
5m Base Plug	2.5m (2no stages)
25.5m Curtain	5.1m (5 stages)
Criteria for termination	Flow, Volume, Pressure
Criteria for re-injection	Maximum Volume
Backfill of Holes (on completion)	Mix to be confirmed

6. Select grout materials and grout mix(s) dependant on activity, all grouting operations will be controlled through the grout module where the operator will work to the specified criteria. **Note:** all grout lines to be checked prior to use making sure whip checks are positioned correctly [redacted]

7. The grout will be batched on site then pumped through the grout module to the specified pumping pressures, flowrate and pressures targeting the treatment area

8. This process will be repeated until the targeted treatment area has been completed, once complete the temporary casings will be retracted from the borehole

Micro fine

Material	Quantity
Water	100 L
Micro Fine-MP650	100Kg
Superplasticiser	0.7-1.2L
TOTAL Per Mix	132.8 L

Cement Bentonite

Material	Quantity
Water	100 L
Bentonite	5Kg
OPC	50Kg
TOTAL Per Mix	118L

Grout Testing – To be tested as a minimum – Further testing may be requested by Barhale

Cubes per day	4no per shift
Bleed Test	1no (minimum) per shift
SG (specific gravity)	1no (minimum) per shift
Flow Test	1no (minimum) per shift

9. Conduct post-treatment testing (in accordance with BS 5930:1999+A2:2010, Section 25.5.1) using a separate borehole, targeted at centroid position). If results are unacceptable, then further treatment may be required. **Note:** Instruction for any validation testing to be issued by [redacted] prior to any treatment being carried out

10. If further treatment is required, decide areas of treatment and repeat steps. **Note**: Further treatment to be agreed and instructed by [redacted]

11. Backfill holes on completion of treatment with Microfine or Cement bentonite grout. Ensure tremie pipe is taken to top of the last stage to ensure the hole is fully grouted

Compressed air safety

Cylinders are large, heavy and their design is relatively unstable due to their small base. They are potentially dangerous and should be treated with care. Cylinders should never be dropped. All personnel responsible for handling cylinders should have been familiarised in methods used. Some general information is given below:

Compressed air only will be used on site. Never handle or transport a cylinder if the contents have not been identified. Always check the label;

Always keep the material safety data sheets to hand and make sure you are aware of the infor[redacted] contains;

Always wear the correct protective clothing. Eye, hand and foot protection must be worn when handling and using cylinders;

Check the cylinder valve is closed and all equipment including regulators are disconnected. Security caps should also be fitted if available;

Before handling or using gas cylinders, you must understand the properties of the gas, the hazards that these properties may cause and actions to take in the event of an emergency;

Cylinders should be kept in a vertical position and secured from falling (below image is good practice storage of compressed air);

A suitable trolley should always be used for transporting and moving cylinders where possible (below image is current trolley). If cylinder have to be churned this should be for as short a distance as possible. The correct procedure for this practice is illustrated in the "Safe under Pressure";

Locate cylinders away from CoSHH stores, sparks, hot slag and flames. Do not allow electrical contact with cylinders.

[redacted]

Never roll a cylinder as this may damage or open a cylinder valve and will damage the identifying marks and symbols. Never tamper with or attempt to repair compressed gas cylinders or valves. Serious accidents can occur from improper use and handling of compressed gas cylinders.

Compressed Air Storage

Compressed bottles will be stored within a safety cage in an area of the site away from passing vehicles and mobile equipment. This is to prevent impact of the cage and damage to the bottles.

Additionally, the bottles will be kept away from sources of heat (e.g. exhaust outlet or air conditioning systems) to prevent heating of the bottles. Bottles will be returned to the storage cage at the end of the shift and when emptied to ensure they are secure.

Bottles deemed even to be empty will be treated by the site team as though they are full bottles and are under pressure. Even the residual pressure within the bottle could be sufficient for the bottle to react to heat or explode if punctured.

The storage cage will be located on a flat and level surface away from sources of ignition or fuel sources (e.g. diesel or CoSHH storage).

Signage will be placed on the cage denoting the material stored within the bottles and making the site team aware that these are under pressure. Note that the supplier BOC has a colour coding for bottles which denote the material stored within the compressed air bottles.

Inflation assemblies which are not in use will be stored within the storage container (not on the floor) where they could be susceptible to damage.

Prior to use the inflation assembly, packer and any pressurised inflation lines will be visually inspected for signs of damage. If damage is noted then the inflation assembly will be quarantined, discarded or sent to the manufacturer for repair.

Following repairs an assembly will only be used if accompanied with an inspection certificate from a trained and competent person from a reputable supplier.

Any specific recommendations by the compressed air supplier will be followed.

Equipment Set-up

Before assembling regulators and fittings make sure there are no particles of dirt in the cylinder outlet. If a supply of clean compressed air is available use this to blow out any loose particles of dirt from the valve sockets: N.B. eye protection must be worn during this operation.

Always check the cylinder valve before use. If you think a cylinder valve has broken or damaged spindle, do not try to get gas from it. Do not attempt to remove the gland nut; broken spindle could be ejected or unwound at great risk to the operator.

Safe Storage and Inspections of Equipment

All inflation pressure components to be stored in appropriate and safe place where so that they cannot be tampered with or damaged. [redacted]

Attaching Regulators

Regulators must be used only with the gas or gases and pressure for which they are designed;
For new regulators remove the plastic bullnose cap by pulling the nut down towards the body of the regulator;

Check the regulator for any damage. Threads must be in good condition and the seating connection must be free of contamination. If there is an inlet filter, is it in place? Check that the gauges are in a good condition;

Fit the regulator to the cylinder valve ensuring that the front of the regulator is facing forwards;

Using the correct spanner, tighten down the regulator nut. Do not use excessive force. The bullnose on the regulator is a precision made component designed to fit the cylinder valve.

Regulator Maintenance

Always keep the regulator clean and in a safe working condition;

Should gauges become faulty or damaged the product needs replacing immediately as the gauges contain pressurized components which, if damaged, can be potentially dangerous;

Regularly check the regulator visually for any signs of damage.

Never attempt to alter or repair any gas equipment, cylinders or valves.

Repairs and refurbishment of gas equipment must only be performed by competent repair agents.

Regulators should be inspected by a competent person on an annual basis and, in line with the British Compressed Gases Association Code of Practice CP7 requirements, replaced or refurbished after five years.

Training and Competent Persons

Operatives to fully understand the safe methods of working detailed in this method statement, have received suitable training in the use of and handling of compressed air and deemed competent to do so via a competent person / site supervisor. Operatives may also have Gas safety training.

Methodology for Packer Operation

Prior to any operational use / commencement the pressurised systems are subject to a "pressure test / leak test" in a controlled environment and a pre use check witnesses by a supervisor with records of such tests recorded;

Prior to use all compressed air bottles and equipment is inspected for signs of damage or modifications.

Ensure that the inflation line and gout injection pipes are secured at both the packer and surface ends. Note that where pipes are joined through a but fitting then a spanner is to be used to ensure that the fitting is suitably tight;

The pressure regulator will output a maximum 50-bar and verified by the site supervisor;

With all other valves closed the ¼" hydraulic valve will be opened in order to allow air into the inflation assembly;

The tap for the respective packer to be inflated will be identified. The engineer will provide to the operator the pressure required to inflate the packer to the required diameter. This is read from a chart provided by the supplier

The inflation tap will be opened and the operator will regulate the flow of air through the tap until the inflation pressure is reached;

Once the pressure is reached the tap will be closed to "lock in " the pressure within the packer;

If any marginal reduction is pressure is seen then the pressure will be topped up;

Grout injection will be undertaken. During this time an operator will monitor the pressure within the packer inflation line to ensure that no escape of air occurs within the system.

Following the completion of injection in the grouting stage the following process will be employed for the deflation of the packer:

The ¼" inflation fitting will be closed to isolate the inflation assembly from the compressed air bottle;

The ¼" male coupler will be opened to provide a pathway for air to be released;

The tap for the respective inflation line will be opened enabling the air to be released from the packer. During this time the operator will monitor the pressure gauge to observe the reduction in air pressure as it is released from the packer.

Slip liner installation

1. Once The drill rig has drilled to depth of the first stage (24.1m from PPL) and the casings installed (see above) the slip liner will be threaded together in 3m sections (88mm diameter) then lowered into the bore until the base of the bore has been reached. End Caps can be placed on the end of the slip liner to stop debris from entering the liner.
2. The drilling casings are to be removed via the drilling rig and when the slip liner is in place it will be secured sealed into the ground with a cement/bentonite grout.
3. Once installed the slip liner will be utilised as the casing allowing the rig to install more casing and allowing the grouting stages to take place.

[redacted]

DTHWH Down the hole water hammer

1. A DTHWH (100mm diameter) will be used in-lieu of a drill bit at the end of a drilling rod.
2. The water hammer is adapted to run with the re-cycled drilling water system (as above) The drilling water will be re-circulated through to the settlements tanks which are situated within the working area. HOLD POINT extra care must be taken around the borehole location to avoid excessive water run off on the working platform. Pre-filled sang bags are to be situated around the borehole to reduce any water runoff.
3. The water hammer and rods will then advanced to the acquired depth of 24.1m below PPL.

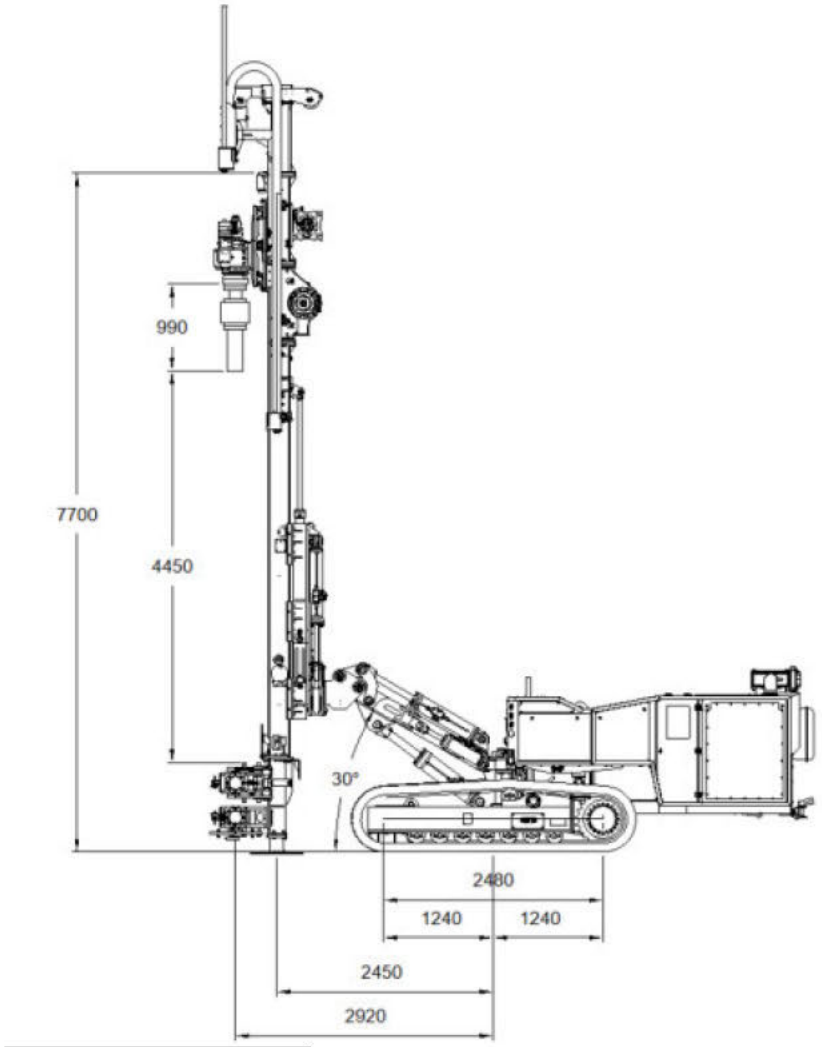
Rig to be utilised for Drilling – Hutte 608 (or similar)

HÜTTE BOHRTECHNIK

H608DT0124

Rig Track Pressure Calculation

Date: 2022-01-10
Rev. 00



[redacted]

All data contained in this brochure are indicative and does not take power losses into account.
All data can be changed without notice

1

FPS Working Platform Certificate

The below must be completed by [redacted] & issued to the Site Supervisor prior to loading of the working platform – The platform must be maintained throughout the works by [redacted]

[redacted]

Working Platform Certificate (FPS/WPC/4b)

Project Name	**Etruria**
Work area covered by this certificate	Shaft Area

(A sketch or marked up pile layout drawing may be attached to this certificate. Include haul roads and gridlines.)

Part 1 – WORKING PLATFORM DESIGN

Equipment to be used on site.	**Hutte 608**
Maximum plant loading	**269kPa**

(Note: BR470 'Working Platforms for Tracked Plant: Good practice guide to the design, installation, maintenance and repair of ground-supported platforms' is available from [redacted])

Designer Name			Tel No.
Designer Organisation			
Is Testing Specified?	Yes / No	If 'Yes' Give Details:	

2 Control of Activity Risks

Significant hazards and their control measures resulting from the identified risk activity are specified in the document referenced in the table below:

Hazard	Controls Specified	Hazard briefing required for:		
		Piling & Grouting Operations	Lifting operations	Attendant Excavator/ banksmen
Rotating machine parts	Guards to be used at all times	X		[redacted] X
Ground Contaminates	Correct PPE to be worn, sufficient monitoring to be in place during the works	X		
Plant Movements	Under the control of a banksman	X	X	X
High Pressure Hoses	All high pressure hoses to be fitted with whip checks	X		
Lifting of Equipment	Operation to be carried out by slinger/signaller only. Approved Lift Plans to be in place	X	X	X
Cement Burns	Correct PPE to be worn. Eye wash points to be identified. Long Sleeves at all times- White paper suits to be worn	X		
Environmental	Spill kits to comprise plant nappies, spill granules, booms and drip trays	X	X	
Services	Ensure all services are protected. In Date service drawing to be provide with the permit to dig	X	X	
Monitoring	[redacted] to have sufficient monitoring with trigger levels in place prior to works commencing	X		
Noise	Acoustic noise barriers to be supplied and placed around the site perimeter by [redacted]	X	X	X
UXO	[redacted] to provide UXO reports if required prior to works commencing (Drilling activities)	X	X	X
Plant and Machinery	Always use designated walkways and controlled crossing points	X	X	X
Spontaneous Combustion	Gas monitors to be placed at near the borehole detect gases with an alarm system in place to stop works if activated.	X	X	X
Lifting Operations	Approved lift plan to be in place	X	X	X
Leptospirosis	Correct PPE/ Gloves to be always worn, wash hands regularly, wash before eating or smoking	x	x	X

2.1 Planning for Any Open Line (ALO) working on Network Rails Infrastructure

A code of practice exists to provide guidance for any organisation operating in proximity to Any Open Line. [redacted] Code of Practice for ALO Working.pdf - All Documents (sharepoint.com)

A person with experience, knowledge and the competency to plan works will prepare a plan to eliminate as far as is reasonably practicable any possibility y of operating plant collapsing onto any line open to traffic.

The Responsible Manager will prepare a plan (if required) for consideration that assesses the risk of any plant or equipment can foul an open line with traffic.

Where All lines are blocked, for the full duration of the works, no additional ALO controls are required.

[redacted]

:Risk Identified	Controls Specified	Tasks where risk needs to be briefed				
		setup	installation	Demob	Testing	Etc.

Full hazard assessments do not need be included, only the significant risks and the relevant controls. Details of hazards should be available from standard activity hazard assessments referenced by it.

Note: No works carried out on Network Rail Infrastructure –No ALO working on this project

3 Resources

Proposed plant and equipment to be used at **Etruria-Stoke on Trent**

- Up to 3no Casagrande 608 Diesel rigs or similar (or similar)
- 2no SD250 Grout Mixer
- 1no 6 Pump Grout Module
- Various Grout & water hoses
- 1no Telehandler (JCB 535-95)
- 1no Water Pump
- 3no Slurry Pump
- 101mm Temporary casings
- T38 Drilling Rods
- 1no Fuel Bowser [redacted]
- Jet wash Bowser
- Various small tools
- 1no 56,000l Water Tank (c/w stop valve)
- 1no Settlement Tank (for water flush drilling)
- 10ft Stores Unit
- Water supply / Discharge point c/w licence ([redacted]
- Attendant Engineer & Muck Away ([redacted]

Proposed Labour Requirements to be used at **Etruria-Stoke on Trent**

- 1no Supervisor (SMSTS)
- Up to 3no Rig Operators
- Up to 3no Rig Attendants
- 1no Grout Pump Operator
- 1no Module Operator
- 2no Manipulator Operator
- 1no Telehandler Operator
- Visiting Project Manager
- Visiting Health and Safety officer
- Visiting Field Service Fitter

All site personnel will have as a minimum the following competency requirement: **CSCS, CPCS, with** supervisors to hold a minimum **SSSTS/ SMSTS** with all supervisors **First Aid trained:**

All operatives to produce the relevant competency cards during the [redacted] site induction, this is to take place on arrival to site, commencing at 08.00hrs within the site offices situated in the main compound area.

The Project Manager/ Works Manager will brief the site supervisor on this WPP prior to any works commencing, following this it is the responsibility of the [redacted] works supervisor to ensure all site operatives have been fully briefed clearly understanding the works, any new workers that arrive are also to be fully briefed on the WPP prior to starting work

When concluding WPP briefings for all works, all operatives who have been briefed are to sign the briefing sheet clearly. **Note**: any attending operatives that may be involved in [redacted] works must also be briefed on the works:

For Example: Attending excavator Drivers, attending Crane Drivers

[redacted] 1-1.6K F6 Briefing Record	Version	3
1-1.2K Hazard Assessment and Environmental Impact Assessment	Approved	2020-03-10

Project	Project CAS No	Date
Etruria Stoke on Trent	200-2400257	

Briefing type (tick as appropriate)		Ref. No.	Title
Site Induction			
Work Package Plan	Y	200-2400257	
Hazard Assessment	Y		
Toolbox Talk	Y		
Risk & Opportunity Register	Y		
Other (specify)			

N.B. – Signing of this form constitutes a declaration that you have fully understood the contents of the briefing given and will comply with the relevant site rules.

Name (Print)	Signature	Date

I declare that I have briefed the above personnel on the briefing as stated.

Name (Print):		Signature:	
Position:		Date:	

When completed, this document must be filed in the Project Site filing system and kept for a minimum of 3 years from the date of completion

THINK SAFE

4 Permits

Prior to works commencing [redacted] are to apply for a **"Coal Authority Permit"** This authorisation can take the form of a license, an agreement, or a permit, depending upon the nature of the activity to be carried out. The coal authority began issuing permits in 1999 to regularise construction related activities which intersect its property. [redacted] will work under the [redacted] permits during the works

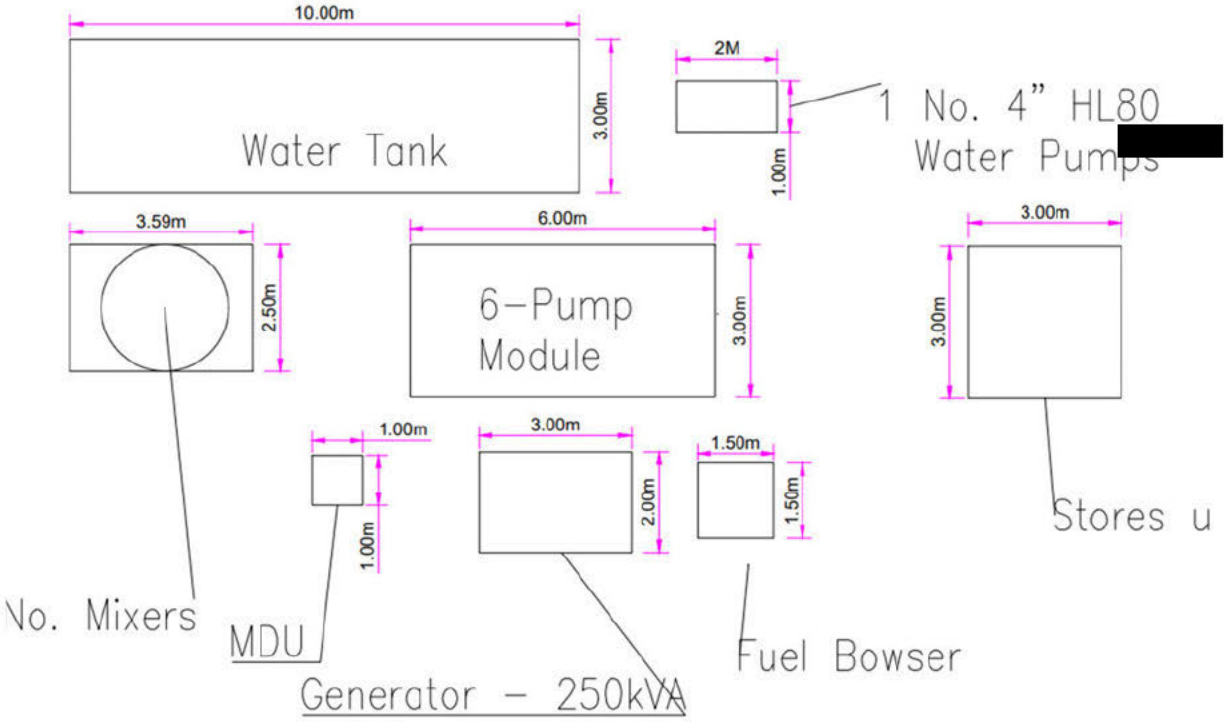
- An FPS Working Platform Certificate must be obtained before loading the working platform, renewed weekly and following any reinstatement of the platform, such as following removal of obstructions.
- The signed working platform certificate must be produced on site and a copy issued to [redacted] before work commences. Daily inspections will be recorded. 1-1.6K F8 Working Platform Daily Inspection & Maintenance Checklist
- The permit to dig must be completed and signed by the client before issuing to the [redacted] Supervisor prior to breaking ground, all services are to be noted on the permit along with a current service drawing
- Any Hot works required then [redacted] will seek to work under the client's Hot works permit
- All issued permits must be signed and dated clearly; these should also be returned to the permit issuer once complete

5 Site Details

Site access is to be discussed with [redacted] prior to mobilisation to site, usually via a site visit by a [redacted] Manager/ Supervisor, with the route to site and any restrictions defined then issued to all suppliers and delivery drivers.

Proposed Grout Set Up

Our site compound would be situated at an open site location, with good access for material deliveries and be within 50m of the grouting areas, this will remain in the agreed location for the duration of the works



5.1 Access

All delivery vehicles must be notified to [redacted] prior to arriving to avoid the build up of vehicles as the site is restricted, a delivery schedule is also to be provided to [redacted] in advance of the works commencing with allocated times issued to the suppliers. **Note**. Access to site is restricted to 4.8m wide extra care must be taken when reversing between the properties shown below

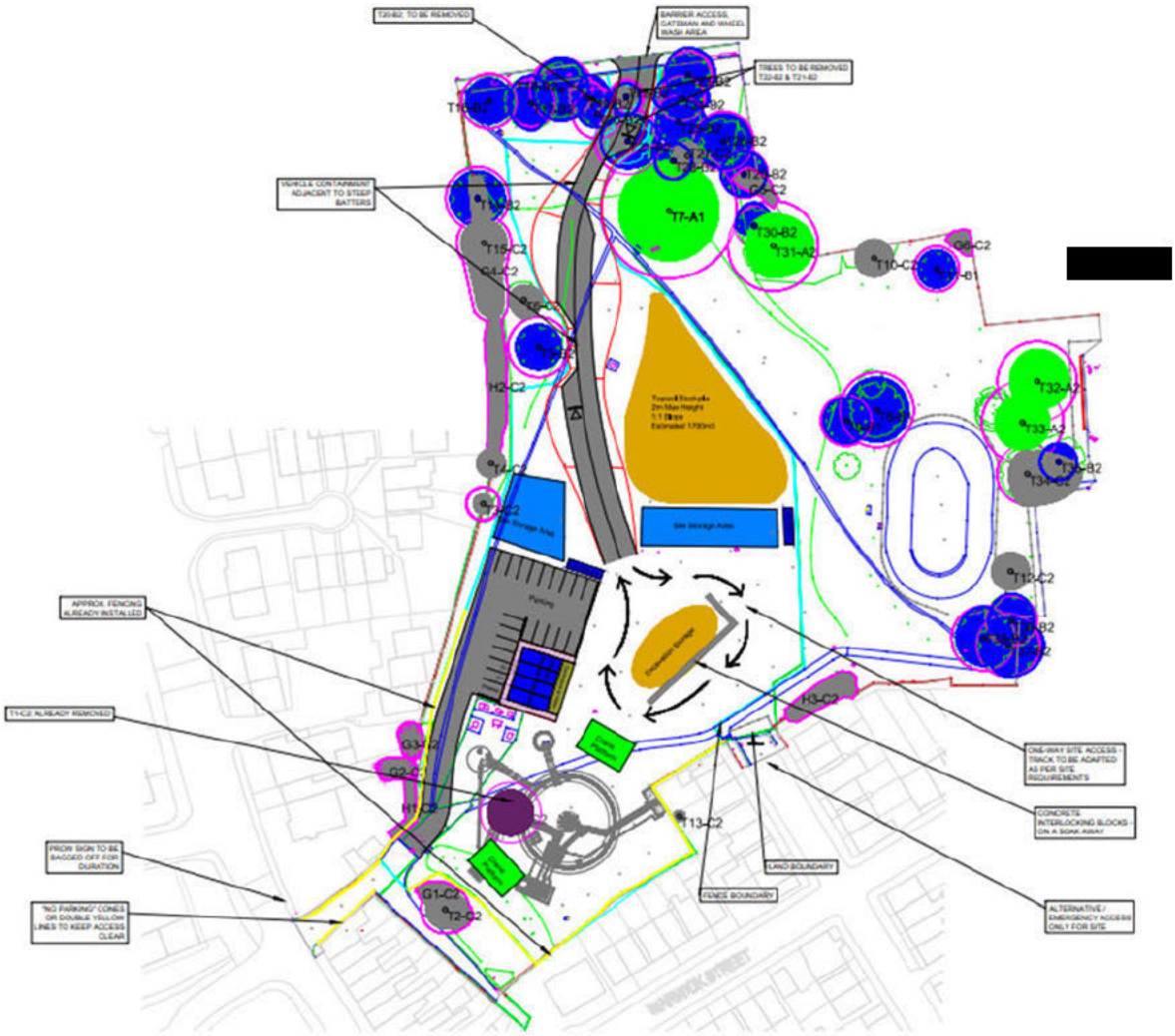
- [redacted] plant and equipment will arrive via hired transport, which will be directed to the working area by [redacted] Traffic Marshal, wagons will be off loaded by way of Hiab or telehandler (lift plan to be supplied for approval prior to works commencing)

- The client will be responsible for all aspects of traffic management and for providing safe access/ egress from/ to the site entrance for deliveries and [redacted] operatives as necessary throughout the site works including mobilisation and demobilisation.

- The plant & equipment will be lifted off the delivery wagon and positioned within the working area by the Hiab or telehandler, a safe working platform will be required throughout the works, this will be prepared and tested by the client to FPS specification. All other plant and equipment will be set up and stored as agreed with [redacted]

5.2 Site Layout

See below layout of the proposed working area at **Etruria-Stoke on Trent**



Note: Any buildings adjacent to the works area must be protected by [redacted] prior to works commencing

5.3 Control of Site Hazards

All [redacted] operatives will attend the project specific, safety induction talk from the Main Contractor prior to works commencing. **Note: An online induction is to be completed prior to attending the work site**

The emergency procedures for the works will be discussed and highlighted at this induction along with any site-specific hazards and emergency procedures, such as the fire safety plan which is put in place by **Erith. Note: Emergency procedures and Fire safety plan to be displayed clearly**

Once inducted, and before any work commences, any change in conditions will be recorded by the site supervisor on the 'Site hazard assessment' form. This document will be updated and made available to the client at regular intervals throughout the job when significant changes occur

Note: See below table: (to be briefed out when appropriate also in daily briefings). All updated Hazard assessments can be found within the site file and on request, any changes within the works which may cause significant risks that aren't included within the current document then HA must be undated. [redacted]

Hazard	Controls Specified	Tasks where hazard needs to be briefed				
		Mob	Demob	Daily		Etc.
Loading and unloading	Use side protection/ banksman	X	X	X		
Grouting Operations	Whip Checks to be fitted to all delivery hoses, correct PPE to be worn at all times			X		
Lifting Operations	Approved Lift Plans- banksman	X	X	X		
Rotating Machine Parts	Rig Guarding to be used			X		
Heavy plant and equipment	Segregation and signage to be adhered too, give way when asked	X	X	X		
Plant movements	Segregate working area, competent banksman to be used	X	X	X		
Spontaneous combustion	Gas monitors to placed near the borehole to detect gases with an alarm system in place to stop works if activated.			X		

5.4 Communication & Contact Details

Contact Name	Job Title/ Company	Telephone
[redacted]		

5.5 Emergency Arrangements

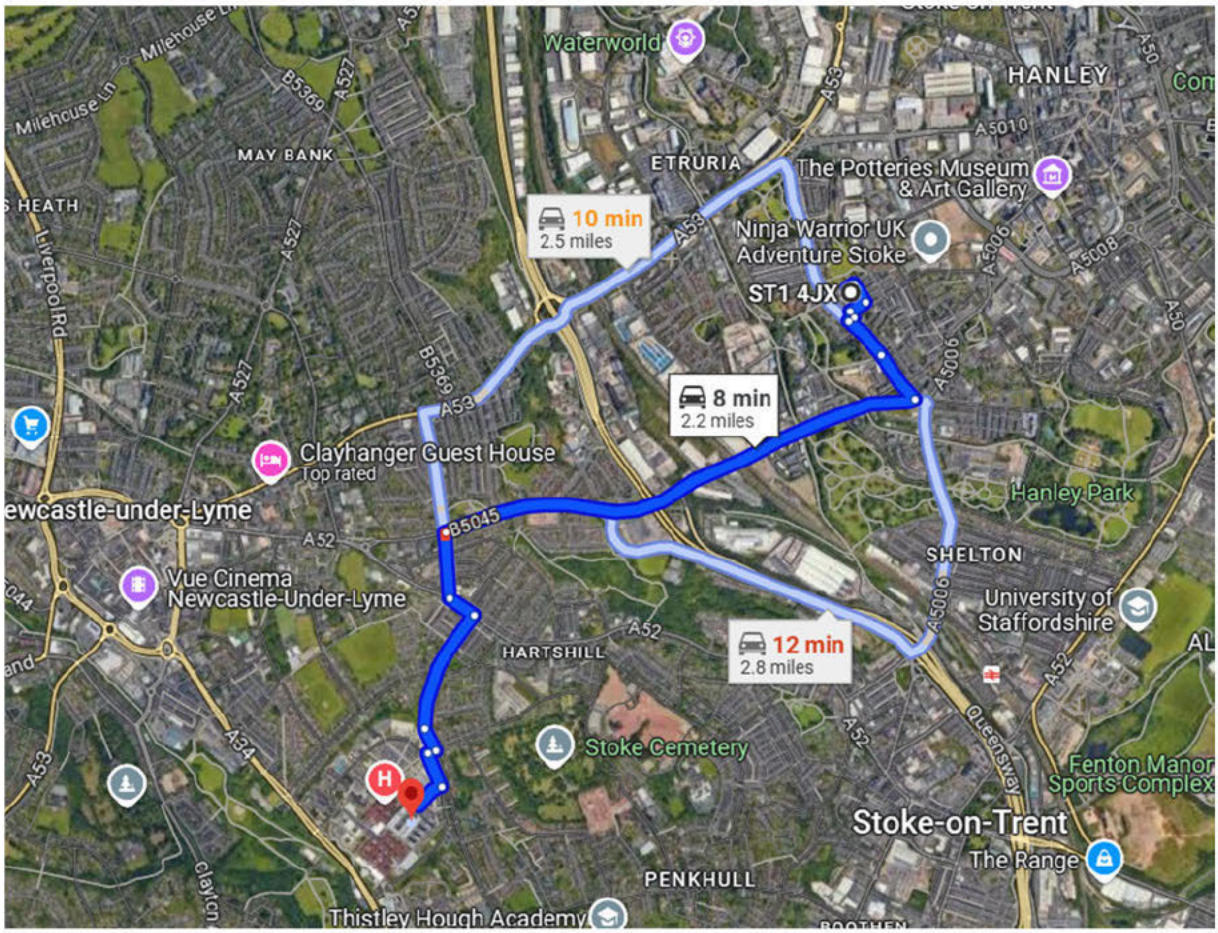
For Emergency see contact details below:

[redacted] site supervisor is the First Aid contact: [redacted]

First Aid facilities situated within the site office- [redacted] site store

The nearest A&E is:
Royal Stoke University Hospital
Newcastle Road
Stoke on Trent
ST4 6QG

TEL: 01782 715444 [redacted]



Any accidents or near misses are to be reported to the [redacted], the appropriate reporting procedure must be always adhered to

5.6 Interfaces

It is essential to maintain good public relations and minimise the impact, disturbance and inconvenience of the works. The site and surrounding roads must therefore be kept in a clean and tidy condition, with external noise emissions kept to a minimum. Acoustic noise reduction barriers are to be installed by [redacted] prior to works commencing to reduce any noise generated during the works

Always use designated walkways with dedicated plant crossings, plant and machinery are active throughout the works, be aware of the public interface with local business units open as usual throughout the works

[redacted]

5.7 Welfare

All Welfare is provided by [redacted] for the duration of the works, including a site office to enable the Site Supervisor to set up his computer and printer, drying rooms are to be provided for the duration of the works by the Main Contractor complete with sufficient heating for the duration of the works

Security is also to be provided by [redacted] for the duration of the works including a secure locked compound for the safe storing of all plant, equipment & materials for when not in use.

- Toilets
- Hot Running Water
- Cold Drinking Water
- Canteen Area for food preparation
- Covered Rest Area Including Seating
- Drying Room
- Regular Cleaning

5.8 PPE

PPE will be worn by all [redacted] employees in the required areas on site to comply with the site rules of the main contractor: **Note: STANDARD PPE IS ORANGE, any change in colour for the project is to be provided by Barhale**

Note: Further PPE requirements maybe required due to contaminants identified within the ground strata these are to be provided throughout the works

- Safety helmets
- Gas monitors (placed near the borehole)
- Protective clothing to suit site specific requirements (fire retardant) [redacted]
- Safety footwear (toe and mid-sole protection)
- Gloves (mandatory on [redacted] sites) Mixer men to wear gauntlets
- Reflective vests/overall, jackets and trousers
- Eye protection (mandatory on [redacted] sites) Bolle Tracker safety goggles to be worn when grouting
- Ear protection
- Long Sleeve`s when dealing with grout operations
- Grout Pump operative to wear appropriate face fitted dust mask. (FFP3)

Safety Helmets	High Visibility Clothing or Vest	Foot Protection	Hand Protection	Safety Glasses	Hearing Protection	Safety Harness
✓	✓	✓	✓	✓	TASK SPECIFIC	TASK SPECIFIC

6 Environmental

6.1 Project Impact Assessment

Prior to commencement of a project the following Environmental Aspects shall be taken into consideration and appropriate controls implemented to reduce any associated impact. [redacted] to implement and notify any required control measures

Where applicable these will be documented with the project specific risk assessment.

- Surrounding ground conditions and topography
- The nature of the site processes and any excavations. **Note**. Any open excavation to be protected at all times
- Watercourses, rivers and streams flowing through or near the site. **Note.** Plant and machinery [redacted] not to be set up near any open drain
- Sensitive downstream receptors. **Note.** Any localised drains to be protected at all times
- Potential for runoff water (from drilling & grouting activities). **Note.** Any localised drains to be protected at all time
- Local drainage arrangements, manholes, catch pits. **Note.** To be protected at all times
- Location of offices, stores and welfare facilities. **Note.** In accordance with the site layout drawing
- Waste disposal, including effluent. **Note.** Contaminated waste to be stockpiled and removed from site by [redacted]
- Maintenance facilities, wheel washes and vehicle cleaning
- Fuel storage, refuelling and drip trays. **Note.** Designated fuelling area to be assigned for the works
- Access roads, hard standings and car parks. **Note.** FPS platform certificate to signed off by [redacted] prior to works commencing
- On-site concrete plants. **Note.** To be situated away from any open drains with bunding around to mitigate any grout run off
- Concrete truck / grout plant wash-down
- Dewatering
- Where required and requested by the client an Environmental Plan will be created.

Note: All grouting operations must be monitored (if required) throughout the works by [redacted]

6.2 Pollution Prevention

Storage of Liquid in Drums - Fuels, Oils, and COSHH substance drums will be stored within a drip tray capable for holding 25% of the total capacity. If the drums stored have a total capacity in excess of 200L then they must be bunded to 110% of the total volume. The container will be clearly labelled as to the contents.

Storage and Use of Fuel Cans: Ensure that vessels used are appropriate for the fuel and that caps are securely fitted when not in use and they are restrained for transport.

Use of plant nappies or drip trays will be utilised across the site for items of static plant, fuel and COSHH substances.

Spill Control - Spill control kits will be located in the vicinity of fuel stores / refuelling points. **(any designated re-fuel laydown area to be noted by** [redacted]

Each major plant item will carry its own spill kit where possible. For some business units these will [redacted] mobilised to site in the stores.

If a spill occurs on site – this will be contained immediately using spill kits / sand / earth bunds etc. and further leakage will be prevented i.e. close valve, right an up turned oil drum etc.

A check will be made to ensure any spill has not reached any nearby drains, manholes, watercourses or other sensitive areas. If required any pathways will be dammed and any receptors bunded to prevent subsequent contamination

Spills will be reported in accordance with [redacted] procedure 1- 3.1K Reporting & Investigating Incidents and reported to the [redacted] Site Manager.

The following information will be included in the report -

- Material involved and pollution properties if applicable
- Location
- Whether it is in danger of entering drainage / watercourses
- Quantity involved
- Reason for spillage / responsibility

Any material used to clean up a spill will be collected and disposed of as hazardous waste

---

6.3 Waste Management

Responsibility for Waste Management on site will be in accordance with the subcontract agreement. [redacted] are to provide sufficient washout facilities for excess grout, with the provision of waste skips for all general waste created from the works. [redacted] are to adhere to any procedures that have been put in place by [redacted] with any waste management information / procedures adhered too

Where applicable [redacted] will comply with Section 34 of the Environmental Protection Act (EPA) duty of care. [redacted] are responsible for all waste control and movement throughout the works.

The EPA places a duty on any person who imports, produces, carries, keeps, treats or disposes of controlled waste or, as a broker has control of such waste, to take measures to prevent the unauthorised or harmful deposition, treatment or disposal of waste and prevent the escape of the waste from his control or that of any other person

Where applicable [redacted] will ensure that the transfer is only to an authorised person or to a person authorised for transport purposes.

Where contaminated waste cannot be disposed on site, in agreement with the client, [redacted] will arrange disposal with a registered waste carrier or transport small quantities themselves with a relevant waste consignment note. https://www.gov.uk/government/publications/hazardous-waste-consignment-note

Waste will be segregated and disposed of in accordance with the agreed subcontract – [redacted] to control and remove all site waste

---

6.4 Unexpected Contaminated Land

Where contamination is unexpectedly discovered on a work site i.e. Asbestos, the following approach should be taken:

Engage the Stop Work Authority and immediately notify the [redacted] Site Manager and the Environmental Manager.

Review and revise applicable SSOW and ensure that all appropriate controls are implemented and that site personnel are wearing the correct PPE.

Note: All contaminated ground to be identified prior to works commencing with risks highlighted and identified with sufficient mitigation measures in place by [redacted]

[redacted]

7 Briefing

7.1 Briefing Arrangements

The basic documentation for managing the operations comprises this document, the associated Hazard Assessments and Work Instructions, Tool-Box-Talks and Start of Shift Briefings.
Each member of [redacted] staff and visitors will be briefed on these documents prior to accessing the site.
Records of these briefings will be kept by the [redacted] supervisor on site, with a copy sent back for records at the main office.

- Daily Briefings sheets to be signed by all operatives/ visiting staff 1-1.6K F7 Daily Briefing Sheet
- Toolbox Talks
- Permits
- Risk Register
- WPP
- Working at Height

1-1.6K Briefing Record to be completed daily and signed accordingly

Working at Height (if required)

All operators conducting duties with the use of the MEWP shall be in accordance with the manufacturers operating instructions at all times. All operators shall be IPAF qualified.
During operations, all trained occupants in the platform will wear a lanyard and safety harness to the authorised anchorage points. 6 monthly thorough examination certificates will be provided,